

Lightsolve Minimalist User Manual

Installing

Get the last installer from <http://lightsolve.epfl.ch> then run the executable file and follow the instructions to install the program. The UEM release will be published Monday 16. March 2015.

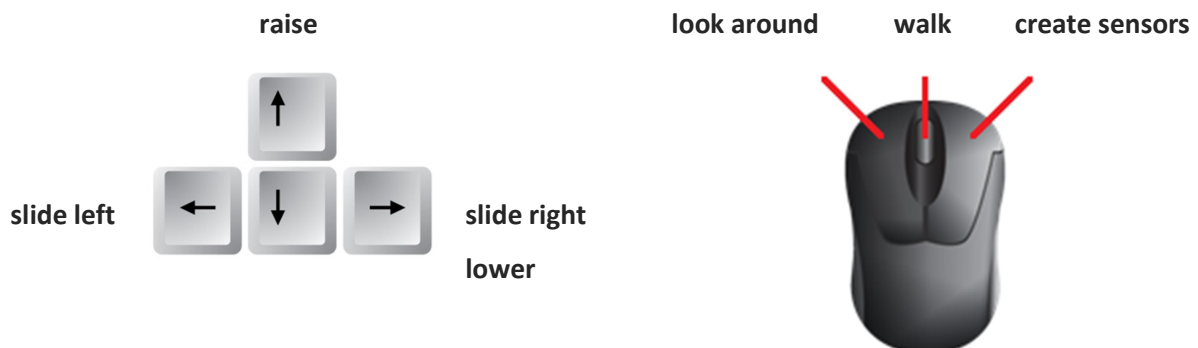
Preparing a 3D model

Keep in mind the following points:

- design the **ground** around the building (about 3 times larger than the building's area)
- design **thick walls** (use volumes, not surfaces)
- avoid unrealistic **colors** (do not saturate hue)
- **windows** must be designed as surfaces:
 - o one layer for single glazing,
 - o two layers for double glazing, etc.
- design the **surfaces of interest** that are not part of the geometry as 100% transparent
- set the **orientation of your building** in your modeling tool, keep in mind that:
 - o X axis points to East
 - o Y axis points to North
- in Rhino make sure to **set materials**, not just colors
- save your file to **SKP** or **OBJ** formats

You can now load the SKP/OBJ file directly into Lightsolve.

Navigating the Scene



Creating the sensors

Illuminance, Glare and **Health** are **surface sensors**:

they can be created by right clicking an existing surface then manipulated: right click to select the transform, and then TAB to toggle between the transform axis. Finally use the mouse wheel to transform the sensor, one done click the scene to deselect the sensor.

Contrast and **Variability** are POV sensors:

navigate to the interesting point of view then click the **+** button in the left toolbar and select the type of sensor.

Hints

- **Do not align your sensors** exactly over existing surfaces: shift them a little along the normal.
- **Sensors require memory**, reasonable numbers are 1 to 20.
- **Restart Lightsolve** between two simulations.
- **Be patient** if Lightsolve is not responding: it does some heavy computing and it's not always reactive.
- **Be patient** if Lightsolve crashes: It is being developed by a small team at EPFL and it's not always stable.
- **Get a coffee** while Lightsolve computes the whole simulation.

Known Problems

- Sudden crash when deleting a sensor before creating any
- Crash when clicking the toolbar buttons before loading models

How to get support

You will prevent 99% of the problems related to modeling by submitting your 3D model to lorenzo.cantelli@epfl.ch by Thursday 26 March 2015.